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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10-043,418	01/10/2002	Cynthia A. Henson	960296.97486	9063

7590

07/15/2003

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EXAMINER

RAO, MANJUNATH N

ART UNIT

PAPER NUMBER

1652

DATE MAILED: 07/15/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/043,418

Applicant(s)

HENSON ET AL.

Examiner

Manjunath N. Rao, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 25 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) 1-9 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claim 1 and 6, drawn to a modified  $\alpha$ -glucosidase which differs from the wild-type enzyme by proline substituted at position 340, classified in class 435, subclass 200.
- II. Claims 2, 4, drawn to polynucleotide sequence encoding the modified  $\alpha$ -glucosidase which differs from the wild-type enzyme by proline substituted at position 340, classified in class 536, subclass 23.2.
- III. Claims 3 and 5, drawn to a transgenic host expressing the DNA encoding modified  $\alpha$ -glucosidase which differs from the wild-type enzyme by proline substituted at position 340, classified in class 800, subclass 8+.
- IV. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is deletion of an aspartate at position 83, classified in class 435, subclass 200.
- V. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is deletion of an aspartate at position 92, classified in class 435, subclass 200.
- V. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of a proline at position 100, classified in class 435, subclass 200.

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- VI. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is substitution of a proline for an aspartate at position 101, classified in class 435, subclass 200.
- VII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is deletion of an aspartate at position 105, classified in class 435, subclass 200.
- VIII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline at position 122, classified in class 435, subclass 200.
- IX. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline at position 184, classified in class 435, subclass 200.
- X. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is removing N-glycosylation site from residue 298, classified in class 435, subclass 200.
- XI. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline at position 336, classified in class 435, subclass 200.
- XII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is deletion of aspartate at position 369, classified in class 435, subclass 200.

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- XIII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of N-glycosylation site and deletion of aspartate at position 372, classified in class 435, subclass 200.
- XIV. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is removing N-glycosylation site from residue 391, classified in class 435, subclass 200.
- XV. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline at position 394, classified in class 435, subclass 200.
- XVI. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline and removing as aspartate at position 403, classified in class 435, subclass 200.
- XVII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of N-glycosylation site to residue 463, classified in class 435, subclass 200.
- XVIII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is removing an aspartate from position 508, classified in class 435, subclass 200.
- XIX. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is removing a deamidating site from position 568, classified in class 435, subclass 200.

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- XX. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of N-glycosylation site and deletion of aspartate at position 694, classified in class 435, subclass 200.
- XXI. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline at position 713, classified in class 435, subclass 200.
- XXII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is addition of proline at position 742, classified in class 435, subclass 200.
- XXIII. Claims 6 and 7, drawn to a modified  $\alpha$ -glucosidase enzyme wherein the modification is removing an aspartate from position 508, classified in class 435, subclass 764.
- XXIV. Claim 8, drawn to a polynucleotide encoding a modified  $\alpha$ -glucosidase enzyme wherein the modification is any one specific modification as listed in groups IV through XXIII. If applicants elect this group they must also elect a single specific modification as listed in groups IV through XXIII, classified in class 536, subclass 23.2.
- XXV. Claim 9, drawn to a method of making a specific mutant form of the barley  $\alpha$ -glucosidase wherein the specific mutant is any one selected from groups IV through XXIII. If applicants elect this group, they must elect a single specific mutant as listed in groups IV through XXIII, classified in class 435, subclass 69.1.

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The inventions are distinct, each from the other because of the following reasons:

Restriction between polypeptide and polynucleotide:

Inventions I through XXIV are patentably distinct from each other. They are all different products such as polypeptides, polynucleotides and transgenic organisms. The polypeptide and the polynucleotides and the transgenics, each comprise amino acid sequences and nucleotide sequences all of which differ structurally from each other and which are chemically unrelated, do not require each other for practice; have separate utilities, such as use of the polypeptides to catalyze a glucosidase reaction versus the use of polynucleotide in a hybridization reaction versus the use of transgenics to produce polypeptides and are subject to separate manufacture and sale. The groups have acquired separate status in the art and separate fields of search.

Inventions I, IV through XXIII and XXV are related as product and process of making the product. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the modified polypeptides can be made by peptide synthesis method as opposed to the method of group XXV.

Inventions II, III, XXIV and XXV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that

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product (MPEP § 806.05(h)). In the instant case the polynucleotide can be used in a hybridize reaction to identify a polynucleotide as opposed to its use group XXV.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

A telephone call was made to Zhibin Ren on 7-10-03 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manjunath N. Rao, Ph.D. whose telephone number is 703-306-5681. The examiner can normally be reached on 7.30 a.m. to 4.00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 703-308-3804. The fax phone



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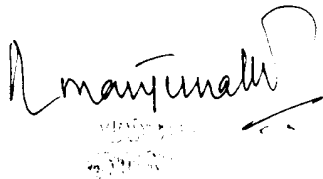
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numbers for the organization where this application or proceeding is assigned are 703-308-4242

for regular communications and 703-308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0196.

A handwritten signature in black ink, appearing to read "Manjunath N. Rao". The signature is written in a cursive style with a large initial "M" and a long horizontal stroke at the end.

Manjunath N. Rao  
July 14, 2003